



Induflex N.V. / Ottergemse steenweg Zuid 799 / B-9000 Gent. Belgium/+32-(0)9-221.13.94 / F:+32-(0)9-222.37.91

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: Film-Foil Laminates
PRODUCT LINE: LG 9298
CHEMICAL FAMILY: Laminated Tapes
HMIS RATING: H 0 F 1 R 0
USE OF MATERIAL: Flexible printed circuit applications
DATE ISSUED: 24-Mar-09
EMERGENCY PHONE: +32-(0)9-221.13.94 (Monday – Friday 8:30 am – 5 pm GMT +1)
CHEMTREC: 800-424-9300 (U.S. & Canada) (24 hours)
703-527-3887 (International – call collect) (24 hours)

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>CAS No.</u>	<u>EINECS /ELINCS</u>	<u>%</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>EU Classification</u>
Copper	7440-50-2	231-159-6	50-90	NE	NE	NC according to 67/548/EEC
Nickel	7440-02-0	231-111-4	<20	1 mg/m ³	1.5 mg/m ³	Xn, R40, R43
Zinc	7440-66-6	231-175-3	<20	NE	NE	N, R50/53

The Material contains no other hazardous ingredients as defined in OSHA's Hazard Communication Standard 29 CFR 1910.1200 or EU directive 1999/45/EC, and do not present a health or environmental hazard according to directive 67/548/EC.

3. HAZARDS IDENTIFICATION

CASSIFICATION OF THE MATERIAL: None Regulated
LABELING REQUIREMENTS: NE
EFFECTS OF OVEREXPOSURE: None Known
INHALATION: Dust formed during mechanical usage may cause irritation.
EYE CONTACT: Dust formed during industrial operations may irritate eyes. Film has sharp edges, which may damage eyes. Follow proper PPE usage during handling.
SKIN CONTACT: Film has sharp edges, which may damage skin. Follow proper PPE usage during handling.
INGESTION: Not a likely route of entry.
OTHER: Electrical Insulator can induce the generation of static electricity.
CHRONIC: NA

4. FIRST-AID MEASURES

INHALATION:	Obtain medical attention if symptoms persist.
EYE CONTACT:	Dust may irritate eyes. Sharp edges may cause cuts and irritation. Obtain medical attention if symptoms persist.
SKIN CONTACT:	Dust may irritate skin. Sharp edges may cause cuts and irritation. Obtain medical attention if symptoms persist.
INGESTION:	Not a likely route of exposure. Obtain medical attention if symptoms persist.

5. FIRE-FIGHTING MEASURES

FLASH POINT:	NA	Flammable Limits:	LEL	<u>NA</u>	UEL	<u>NA</u>
AUTOIGNITION TEMPERATURE:	NE					
EXTINGUISHING MEDIA:	<u> X </u> Water Spray	<u> X </u> Foam	<u> X </u> CO ₂			
	<u> X </u> Dry Chemical	<u> </u> Other –				
SPECIAL FIRE FIGHTING PROCEDURES:	Firefighters should be equipped with self-contained breathing apparatus and turnout gear.					
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None Known					

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:	Wear suitable protective equipment. Do not breathe dust. Eliminate sources of ignition. Avoid contact with skin and eyes, which may cause lacerations.
ENVIRONMENTAL PRECAUTIONS:	Prevent from entering sewer system, surface water or soil.
CLEANING METHODS:	Sweep or shovel spills into appropriate container for disposal.

7. HANDLING AND STORAGE

HANDLING:	Wear suitable protective equipment. (Refer to section 8) Wash hands with soap and water after handling.
STORAGE:	Keep material in a temperature controlled room between 20-25 °C. The areas should be well ventilated and dry. The material is combustible. The material is guaranteed under these conditions for one year from shipment date for quality.

8. ENGINEERING CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION:	If mechanical ventilation is absent, or inadequate to maintain exposure levels below those listed in Section 2, use PPE compliant to Directive 89/686/EEC with the appropriate CEN Standards. Apply a respiratory protection program in conformity with the country, state and local legislation.
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VENTILATION
LOCAL:

Recommended with all industrial operations

GENERAL: Recommended with all industrial operations

PERSONAL PROTECTION

HAND: Cut resistant gloves
EYE: Safety glasses with side shields
OTHER: Proper clothing to minimize exposure lacerations. Gloves and clothes with long sleeves. Safety Shower/eyewash in the area if possible exposure to tissue

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Roll of flexible material.
ODOR: Characteristic
PHYSICAL STATE: Solid
BOILING POINT: NA
MELTING POINT: $\geq 85^{\circ}\text{C}$ ($\geq 185^{\circ}\text{F}$) (melting point of Polyethylene substrate high for polyester substrate)
FREEZING POINT: NA
FLASH POINT: NA
WATER SOLUBILITY: NA
VAPOR DENSITY: NA
VAPOR PRESSURE: NA
SPECIFIC GRAVITY: (water = 1) NE
PARTITION COEFFICIENT: NA
EVAPORATION RATE: NA
RELATIVE DENSITY: NA
VISCOSITY: NA
AUTO-IGNITION TEMPERATURE: NA
DECOMPOSITION TEMPERATURE: NA
PH: NA
FLAMMABILITY: NA

10. STABILITY AND REACTIVITY

STABLE UNSTABLE

MATERIALS TO AVOID: None Known
HAZARDOUS POLYMERIZATION: May Occur Does Not Occur
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, oxides of nitrogen, and hydrocarbons can be generated during thermal decomposition and combustion. Decomposition of PVC substrate may generate hydrogen chloride and phosgene gas additionally.

11. TOXICOLOGICAL INFORMATION

NA

12. ECOLOGICAL INFORMATION

NA

13. DISPOSAL CONSIDERATION

PHYSICAL/CHEMICAL PROPERTIES AFFECTING DISPOSAL: None
ENVIRONMENTAL TOXICITY DATA: NA
WASTE DISPOSAL METHOD: Dispose of in accordance with applicable, federal, state, provincial, and local laws and regulations.

14. TRANSPORT INFORMATION

UN NUMBER:	Non-Regulated
UN PROPER SHIPPING NAME:	Non-Regulated
HAZARD CLASS (ES):	Non-Regulated
PACKING GROUP:	Non-Regulated
ENVIRONMENTAL HAZARDS:	Non-Regulated

15. REGULATORY INFORMATION

INTERNATIONAL REGULATIONS:

Canadian (DSL/NDSL):	NE
Australian (ACIS):	NE
Korea (KECI):	NE
Japan (ENCS, MITI):	NE
EU Directive 2002/95/EC (RoHS):	Does not contain any intentionally added substances mentioned by the RoHS directive.

EUROPEAN UNION labeling and classification of this material:

Symbol



[+ Xn : Harmful](#)

R-phrase

R 40 Limited evidence of a carcinogenic effect.
R 43 May cause sensitization by skin contact.

S-phrase

S 2 Keep out of the reach of children.
S 22 Do not breathe dust.
S 36 Wear suitable protective clothing.

TSCA

(Toxic Substances Control Act):

All materials are listed or exempt from TSCA listing.

CERCLA

(Comprehensive Emergency Response, Compensation, and Liability Act):

Zinc: RQ 1,000 lb (CAS 7440-66-6)
Nickel: RQ 100 lb (CAS 7440-02-0)

SARA TITLE III

(Superfund Amendments and Reauthorization Act):

NA

311/312 HAZARD CATEGORIES:

NA

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372:

<u>CAS #</u>	<u>CHEMICAL NAME</u>	<u>PERCENT BY WEIGHT</u>
7440-50-2	Copper	60%
7440-66-6	Zinc	20%
7440-02-0	Nickel	20%

16. OTHER INFORMATION

NA = Not Applicable
NE = Not Established
NC = Not Classified

FILE: German Silver laminates.doc
99188
PREPARED BY: Jonas Heynssens
REVIEWED BY: Steven de Smedt

EUROPEAN UNION classification of
materials used to create:

Nickel
Zinc

Xn, R40, R43, S2, S22, S36
N, R50/53, S2, S61

REVISION ITEMS & DATE: 6-11-07, Section 16, 15, 2, 10-11-07 Section 1, added product line.

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